

Listing of the Claims:

The following is a complete listing of all the claims in the application, with an indication of the status of each:

1 - 40. (Canceled)

1 41. (New) A system for automated mapping of part numbers
2 associated with parts in bills of materials (BOMs), submitted by a
3 plurality of BOM originators to a BOM receiver, to the BOM
4 receiver's internal part numbers, the system comprising a computer
5 having a processor, a memory operative coupled to the processor,
6 wherein the memory stores instructions that when executed by the
7 processor perform operations comprising:
8 receiving an historical BOM data describing BOMs received
9 by the BOM receiver, from a plurality of BOM originators, over a
10 time history;
11 receiving known mapping data defining historical mappings
12 between the BOM receiver's internal assigned part numbers and the
13 BOM originators' various assigned part numbers;
14 receiving part description parameters describing a plurality of
15 parts to which the BOM receiver has assigned internal part
16 numbers;
17 computer methods of learning mapping prediction models for
18 predicting BOM internal part numbers based on received BOMs
19 from the plurality BOM originators, based on the historical BOM
20 data, mapping data and part parametric data, wherein said
21 computer methods include feature extraction for tokenizing a
22 textual description of parts according to a token scheme and
23 generating a corresponding list of parametric features based on the

24 extracted tokens, wherein said computer methods form said learned
25 mapping prediction models according to a multi-level taxonomy
26 arranged for a hierarchical prediction mapping, including initially
27 predicting a class of an unmapped part based on a received
28 information, and traversing down levels of the taxonomy, predicting
29 the sub-class of the unmapped part at each subsequent level and, at
30 a leaf level of the multi-level taxonomy, classifying the unmapped
31 part to a BOM receiver internal part number based on the
32 parametric features extracted from the BOM originator textual
33 description of the unmapped part;

34 learning said prediction models from said historical BOM
35 data, known mapping data, and part description parameters, using
36 said methods of learning, and generating resulting learned
37 prediction models;

38 receiving a BOM from a BOM originator, said BOM
39 describing parts according to BOM originator assigned part
40 numbers, wherein at least one of said BOM originator assigned part
41 numbers is an unmapped part number not within said historical
42 mapping data;

43 predicting a BOM receiver internal part number associated
44 with at least one part described by said BOM having an unmapped
45 part number, said predicting including applying at least one of said
46 learned prediction models to said received BOM bill of materials;
47 and

48 generating a release data having said predicted BOM receiver
49 internal part number.